UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,728	03/13/2001	Kannan Srinivasan	696.005	2029

35195   7590   08/25/2008
FERENCE & ASSOCIATES LLC
409 BROAD STREET
PITTSBURGH, PA 15143

EXAMINER
RETTA, YEHDEGA

ART UNIT	PAPER NUMBER
3622	

MAIL DATE	DELIVERY MODE
08/25/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	09/804,728	SRINIVASAN ET AL.
	Examiner	Art Unit	
	Yehdega Retta	3622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 May 2008*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

This office action is in response to amendment filed May 28, 2008. Applicant amended

claims 1 and 13, and also added new claim 20. Claims 1-20 are currently pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making
> and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
> contemplated by the inventor of carrying out his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with

the written description requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to reasonably convey to one skilled in the relevant

art that the inventor(s), at the time the application was filed, had possession of the claimed

invention.

Claims 1 and 13 recite wherein the offers include optimal advertisements determined

from real time learning from dynamic analyses of promotional experimentation <u>of the various</u>

<u>promotions offered to various other customers.</u> Based on applicant's argument, it is interpreted to

mean that the experiments are performed on customers other than the customer that is considered

to be defunct and than is offered a promotion, i.e. the customer is not included in the

experiments. Based on this interpretation the claim is rejected as containing new subject matter.

The application does not teach the promotional experimentation is done on promotions

offered to other customers. Applicant's specification discloses as following:

"It is easy to change eCommerce promotions by simply updating a Web page. In
addition, it is possible to present different promotions to different online customers without

either customer learning the promotion that has been offered to the other. This may be accomplished by presenting different levels of promotion to different potential customers, for example. Because of these reasons, it is possible to perform controlled, real-time experiments on samples of the customer population to determine customer promotion sensitivities. This information can then be used to determine real-time optimal promotion strategies for an entire customer population or for selected segments of the customer population. In addition, merchants may learn from the online experiments, and apply this learning to offline counterpart market strategies". (See [0076]). "The sampling experiments conducted by the method and system of the present invention are designed to measure different customer inclinations. For example, one area of measurement may be to measure customer inclination to purchase a product at differing promotional levels. In this application, the amount of the promotion is deliberately varied by the inventive system during a sampling period, and statistics are kept by the system to determine what percentage of customers are likely to buy or exhibit interest in the product at the different promotional levels. The statistics typically include, for example, the number of customers who actually purchased the product at each promotional level". (See [0077])

As indicated above the specification discloses that the real-time experiments is performed on samples of the customer population to determine customer promotion sensitivities and the information can be used to determine promotion strategies for an entire customer population or for selected segments of the customer population. The specification does not teach the experiment is performed on other customers beside the one that provided with the promotion.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites, specifying a range of offers to be included in a set of promotions wherein the offers include optimal advertisements determined from real time learning from dynamic analyses of promotional experimentation of the various promotions

offered to various other customers. Since the claim does not indicate that promotions are offered

to a customer or customers, it is unclear which customers are considered "other". Based on

applicant's argument, it is interpreted to mean that the experiments are performed on customers

other than the customer that is considered to be defunct.

Claims 1 and 13 recite the limitation "from dynamic analyses of promotional

experimentation of the various promotions offered to various other customers". The claim does

not recite various promotions offered to a customer or other customers therefore; there is

insufficient antecedent basis for this limitation in the claim.

Claim 14 recites "further comprises sampling data to obtain information about current

market condition". Applicant provides support for this limitation page 19 at [091]. This section

of the specification teaches experimentation utilizing the dynamic sampling engine may be

repeated periodically to ensure that the optimal promotion is dynamically optimized to regularly

compensate for market changes. However dynamically optimizing the promotion to compensate

for market change does not equate to the sampling data is performed to obtain information about

current market condition. The specification does not teach the step of specifying a range of offers

or the real time learning or dynamic analyses of promotional experimentation comprises of

sampling data to obtain information about the market conditions. Nowhere in the specification is

discloses a step of obtaining information about the market conditions. Therefore, this feature is

considered new matter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herz et al.

U.S. Application No. US 2001/0014868, in view of Dahm et al. U.S. Patent No. 6,301,471.

Regarding claims 1, 9-11, 13 and 20, Herz teaches monitoring web-surfer behavior and

predicting future surfer behavior and determining a range of offers and providing a promotion to

the customer based on the customer behavior (see abstract, par. [0004] to [0011], [0023] to

[0046]. Herz teaches wherein the offers include optimal advertisements determined from real

time learning from dynamic analyzes of promotional experimentation *offered to various*

customers (see [003]). Herz teaches that the computer selects offers (providing promotion

*selected from a set of promotions) from the offer database **that are likely to result in profitable***

***sales,** which requires the system to predict which offers that shopper would likely to accept. Herz*

teaches that the likelihood of acceptance can be calculated by counting what fraction of

shoppers (or similar shoppers) who were presented with the offer (or similar offer) chose to

accept. Hers further teaches "(t)he system may amplify the shopper's profile with his or her

present goals, as mentioned above, and with any offers that the shopper has recently considered

or accepted. For example, if the shopper has just bought ski goggles, the system might select

offers of other ski-related equipment that is frequently bought along with ski goggles. Once the

system has determined a shopper's likelihood of accepting a given offer, it can calculate the

expected profit from making that offer (namely, the profit if accepted times the probability of

acceptance). However, expected profit is only one criterion that a vendor might use to select

offers. ***Vendors often prefer not to maximize short-term profit but rather to build a long-term***

relationship with a shopper. This may involve selecting offers that have lower expected profit,

but that are likely to improve the shopper's perception of the vendor, or allow the vendor to

gather further information about the shopper's preferences which can be used to sell future

items"(see [0037]*(wherein the promotion is dependent on the choice of an economic value to*

maximize, wherein the economic value to be maximized is customer retention, profit, revenue,

market share, customer satisfaction, customer retention, utilization of manufacturing resources,

or utilization of shipping resources). Herz also teaches that once a new shopper has been

partially profiled the method predict that the new shoppers preferences resembles the known

preference of other shoppers with similar profiles (see [0046] [0155]-[0158], [0165],[0166].

Herz does not explicitly teach specifying a permissible defunct threshold; determining a

probability that a customer will become a defunct after a predetermined period of time has

occurred, it is taught in Dahm. Dahm teaches monitoring subscribers behavior. A churn

likelihood being predicted based on the subscriber behavior information, such as usage behavior

and providing an offer the customer for the purpose of retaining the customer (see col. 11 line 55

to col. 12 line 32, col. 13 lines 12-26 and col. 15 lines 25-49). Dahm also teaches different

threshold values. Dahm teaches the susceptible subscriber is typically identified by comparing

stored customer profile information with a group of predetermined threshold values associated

with the profile information. Based on the comparison a churn susceptibility index is generated.

A subscriber having profile information (churn susceptibility indexes), which exceeds the

threshold values, is identified as being susceptible to churning, the churn likelihood indicator for

each subscriber is compared against a threshold value and when the churn likelihood indicator

for a particular subscriber exceeds the threshold value, then it is determined that that particular

subscriber has a high susceptibility to churning. Hence, for those of the subscribers that are

determined to have a high susceptibility to churning, predetermined messages are sent to such

subscribers. The objective of the messages that are sent to the subscribers is to reduce the

likelihood that the subscribers will, in fact, churn in the near future to some other carrier.

Additionally, when the churn likelihood indicator is determined not to exceed the threshold value

the churn reduction processing 500 has determined that such subscribers do not have a high

susceptibility to churning and, thus, block 510 is skipped for such subscribers so that the

messages to reduce their churn likelihood are not send (see col. 8 line 55 to col. 9 line 4, col. 12

lines 1-32). It would have been obvious to one of ordinary skill in the art at the time of

applicant's invention was made to implement Dahm's defunct threshold in Herz's customized

price and promotion system. One would be motivated to set up a threshold value as taught in

Dahm in order to predict a customer who is most likely to churn or discontinue the service, and

to provide a proper offer to retain such customers. It would be obvious to use Herz's profile

attributes, such as the last interaction of the customer with the web site, and set a threshold value

to determine the probability the customer would become a defunct.

Regarding claims 2-5 Herz teaches sampling of customers and segmenting the sample

population based on a characteristic of the customers sampled; wherein characteristic is amount

spent on a web site, interaction with a web site or purchase made at a web site (see [0205] to

[0235]).

Regarding claims 6-8 and 12, Herz teaches selection of the promotion is based on

predetermined criteria, such as profit, by optimizing an amount of discount offered in the

promotion; optimizing performed continuously; wherein the optimization includes sampling

responses received from customers to the offer … the promotion amount provided to other

customers based on the promotion discovered in the sample (see [0236] to [0246]).

Regarding claims 14 and 17, Herz teaches sampling data to obtain information about

current market condition. Applicant discloses at [0014] "(t)he Internet is a dynamic marketplace.

As e-commerce becomes a dominant force, the ability to dynamically adjust to and exploit

changes in the Internet marketplace becomes critical. An enormous amount of detailed,

disaggregate information is being routinely captured during Internet transactions. The ability to

gather real-time information on transactions conducted on the Internet means that Internet

merchants could use the information to dynamically update their websites to take advantage of

market conditions. In particular, the availability of real-time transaction information opens up

the possibility of dynamic pricing and marketing. And at [0018] "(s)ome efforts have been made

to use computer systems to estimate supply and demand, to adjust prices to perceived market

conditions, or to vary prices based on the identity and purchasing history of the customer".

Therefore, since in Herz there is the ability to gather real-time information on transaction

conducted on the Internet the information is used is used to take advantage of the market

conditions.

Regarding claims 15 and 18 Herz teaches wherein the step of providing a promotion selected from the set of promotions comprises proactively offering promotions to customers via email messages (see [0290].

Regarding claims 16 and 19 Herz/Dahm teaches wherein the step of specifying a permissible defunct threshold comprises selecting a defunct threshold. "So as to minimize the cost of customer retention" is intended use only and there is no additional step performed to patentable differentiate the claimed invention from the prior art.

Response to Arguments

Applicant's arguments filed December 21, 2006 have been fully considered but they are not persuasive.

As indicated above, Herz teaches providing promotion selected from promotions that are determined from analyses of promotions provided to other customers. (See also [0315]). Herz does not teach a threshold that indicates that there is a probability that the consumer could be defunct. In Herz, the system keeps track of the elapsed time period of the consumer's interaction with the site and provides incentive based on the record (aggressive or less aggressive based on the frequency of interaction). Applicant's invention on the other hand provides promotional offer to the consumer only if the probability of consumer being lost is high. According to applicant's invention a web merchant for example considers a consumer defunct if a consumer's last interaction is six month or more. A threshold value is then selected or specified, i.e., between zero and six month, (for example 3 month).

Dahm teaches a subscriber having profile information (churn susceptibility indexes),

which exceeds the threshold values, is identified as being susceptible to churning, the churn

likelihood indicator for each subscriber is compared against a threshold value and when the

churn likelihood indicator for a particular subscriber exceeds the threshold value, then it is

determined that that particular subscriber has a high susceptibility to churning. <u>Hence, for those</u>

<u>of the subscribers that are determined to have a high susceptibility to churning, predetermined</u>

<u>messages are sent to such subscribers. The objective of the messages that are sent to the</u>

<u>subscribers is to reduce the likelihood that the subscribers will, in fact, churn in the near future to</u>

<u>some other carrier. Additionally, when the churn likelihood indicator is determined not to</u>

<u>exceed the threshold value the churn reduction processing 500 has determined that such</u>

<u>subscribers do not have a high susceptibility to churning and, thus, block 510 is skipped for such</u>

<u>subscribers so that the messages to reduce their churn likelihood are not send</u> (see col. 8 line 55

to col. 9 line 4, col. 12 lines 1-32), same as applicant's invention.

Even though the method and system of providing subscriber's loyalty and retention

techniques of Dahm is used in customers of mobile devices, Dahm teaches specifying a threshold

value based on customer profile and determining a probability that the customer would be

defunct (churn). Dahm's method provides the advantage of identifying customer before they are

lost as customers and avoids Herz's aggressive promotional offers possible in order to reinitiate

lost loyalties. Dahm solves the problem of losing customer not only by understanding the cause

of losing (churning) customers but also by understanding which particular customer are most

likely to churn (defunct) (see col. 1 lines 43-53).

In particular, the Supreme Court emphasized that "the principles laid down in *Graham*
reaffirmed the 'functional approach' *of Hotehkiss, 11* How. 248." *KSR,* 127 S. Ct. at 1739, 82

USPQ2d at 1395 (citing *Graham v. John Deere Co.,* 383 U.S. 1, 12, 148 USPQ 459, 464 (1966) (emphasis added)), and reaffirmed principles based on its precedent that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* The Court explained:

> When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 1740, 82 USPQ2d at 1396. The operative question in this "functional approach" is thus "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.*

The Supreme Court made clear that "[f]ollowing these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement." *Id.* The Court explained, "[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *Id.* at 1740-41, 82 USPQ2d at 1396. The Court noted that "[t]o facilitate review, this analysis should be made explicit. *Id.* (citing *In re Kahn,* 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness"). However, "the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *Id.* at 1741, 82 USPQ2d at 1396.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Yehdega Retta whose telephone number is (571) 272-6723. The

examiner can normally be reached on 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Eric Stamber can be reached on (571) 272-6724. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

YR

/Yehdega Retta/

Primary Examiner, Art Unit 3622